

ER3® Closed-Loop Carpet Recycling Program

“Carpet into Carpet” describes Collins & Aikman Floorcoverings’ production-scale operation that recycles old carpet into new. Patented technology developed by the company is utilized to closed-loop recycle post consumer carpet and manufacturing waste into 100 % recycled content backing for new floorcoverings.¹ Customers are encouraged to return their carpet for recycling through the company’s take back program and any vinyl-backed carpet, regardless of the original manufacturer, can be recycled. Customers are also guaranteed that a hundred percent of the carpet returned to Collins & Aikman will be recycled and that no portion will be landfilled or incinerated. Recycling post consumer carpet enables the company to “mine” buildings for resources rather than take from the earth.

The recycling program was named *Infinity Initiative* because Collins & Aikman products essentially have an “infinite” life cycle. All products are 100 % recyclable and can be recycled again and again. The recycling process involves grinding, extruding, and calendaring reclaimed carpet without separating its construction components. During extrusion, the vinyl portion of the reclaimed carpet is melted – leaving the nylon fiber from the waste carpet intact. As a result, the fiber reinforced recycled backing exhibits superior performance over virgin.

ER3® Recycled Content Floorcoverings

All styles and colors are available with recycled content backing and can be purchased in both six-foot width rolls and modular carpet tile. Powerbond ER3 floor coverings, commercially available for over three years, have a proven track record and history of performance. In fact, ER3 backing was made the standard in the company’s modular product line due to its superior performance and environmental benefits. Many product constructions also utilize premium quality, recycled content nylon 6,6 face yarn. ER3 floorcoverings are available at no additional cost and are covered by a 15 year, nonprorated, limited warranty. Product recycled content ranges from 31 to 52%

VOC emissions are amongst the lowest in the industry because ER3 is offered with the company’s patented RS “dry” adhesive system. The RS self-stick adhesive is preapplied to the product and precured during manufacturing. It simplifies installation and minimizes VOCs by eliminating the use of wet adhesives. In fact, VOC emissions, inclusive of preapplied adhesive, are one-twentieth of the maximum allowable per industry standards.

ER3 products meet or exceed all performance testing required by the General Services Administration (GSA) and are available on GSA contract under recycled content classification SIN 31-16a. Powerbond ER3 floorcoverings also meet the intent and guidelines of Presidential Executive Order 13101 and the spirit of section 6002 of the Resource Conservation and Recovery Act which requires all federal agencies to purchase environmentally preferable, recycled content products.

ER3 products provide environmental benefits, have an extended life cycle and meet high performance standards. Low, dense face constructions combined with ER3 reclaimed content

U.S. Patent No. 5,728,741; 5,855,981; 5,914,343 and other patents pending

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backing provide a high performance product with minimal use of resources. This high performance construction enables Powerbond products to last many times longer than conventional carpet, thus providing a longer life cycle and requiring less frequent replacement.

Ten Steps To Closing The Loop

Product stewardship is demonstrated by true closed-loop recycling and Collins & Aikman's' recycling program incorporates all of the following elements:

- 1) Any Vinyl Backed Carpet Can Be Recycled In The Program
- 2) One Hundred Percent Of The Recovered Material Is Used In The Recycling Process
- 3) One Hundred Percent Of The Reclaimed Carpet Can Be Recycled Back Into Carpet
- 4) Carpet Produced From Reclaimed Material Has A 100% Recycled Content Backing And A Minimum Of 30% Recycled Content Overall
- 5) The Recycled Content Carpet Has Equal Or Better Performance Than Virgin
- 6) The Recycled Content Product Is Provided At Identical Pricing To Similar Products Made From Virgin Materials.
- 7) Full Product Line Is Offered In Recycled Content Construction Providing A Broad Choice Of Styling Options
- 8) All Embodied Energy Is Recaptured In The Recycled Content Products
- 9) All Products Can Be Recycled Back Into Similar Products At The End Of Their Useful Life. All Recycled Products Are Also 100% Recyclable.
- 10) Recycling Program is Fully Operational And Available For Visits

Environmental Teams

More than 30 managers and senior staff administrators participate in teams devoted to optimal environmental performance.

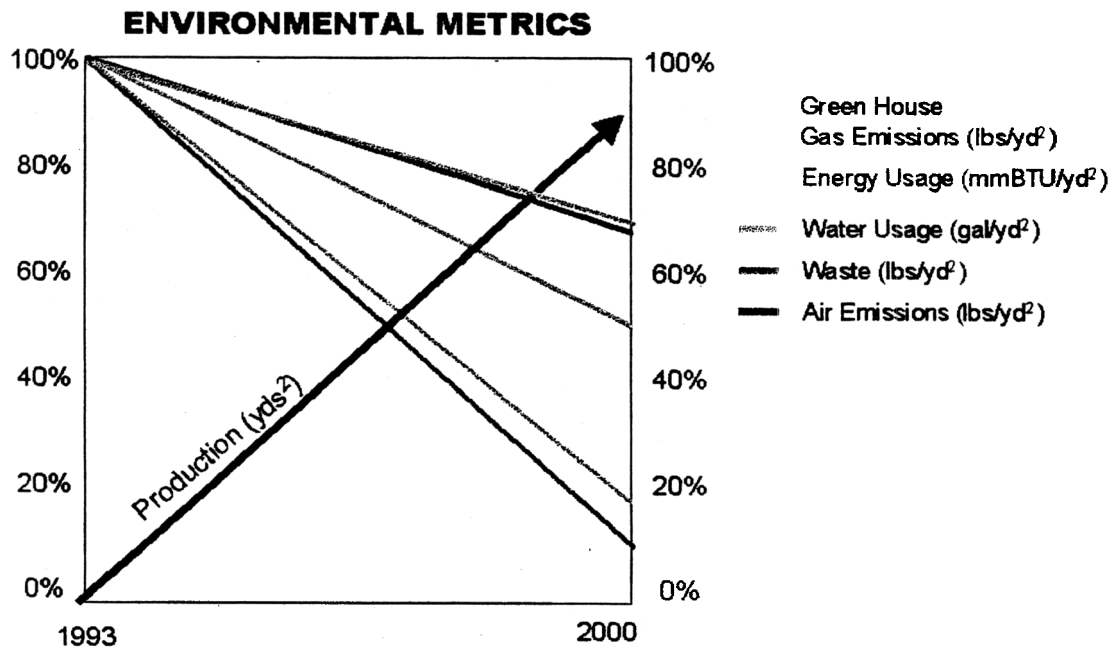
Sustainable Product Evaluation Committee (SPEC) is focused on the development of new products as well as evaluating and improving the sustainable attributes of current products. The group is evaluating alternate fibers and face constructions, and alternate backings that make use of novel polymer systems. Several new products developed with the *Repeat* nylon 6,6 fiber have greater than 82 % recycled content face fiber as a result of the groups efforts. When combined with ER3 recycled content backing, styles, such as, Habitat provide a high performance product with minimum use of resources.

Recycling Team reduces waste going to the landfill by exploring options for recycling waste materials. Periodic "dumpster" audits are conducted to ensure that targeted materials are recycled. The team also coordinates the *Adopt-a-Mile* program, a community program in which employees remove litter four times a year from a one-mile stretch of roadway "adopted" by the company.

Environmental Resource Conservation (ERC) Team - The team is focused on resource conservation and efficient utilization. Their objective is to reduce water and energy usage as well as air emissions through evaluation and implementation of new technologies and renewable energy sources.

Environmental Initiatives

Collins & Aikman's sustainable initiatives go well beyond recycling to environmental considerations that affect all areas of the company's business. The company takes a holistic approach to sustainability that collectively harnesses social equity, environmental accountability and economic performance. The company constantly evaluates all aspects of their manufacturing operations and makes continuous improvements. As shown in the graph below, consistent use of metrics quantifies the company's environmental performance in the areas of resource utilization, air emissions, water and energy utilization and waste reduction.



Over the past six years while increasing production by 91 %, the company also:

- reduced energy usage by 28 % per square yard,
- reduced green house gas emissions by 28 % per square yard,
- reduced water usage by 50 % per square yard,
- reduced air emissions by 89 % per square yard,
- reduced waste by 84 % per square yard.
- recycled over 35 million pounds (17,500 tons) of carpet and manufacturing waste,
- purchased recycled products containing over 12 million pounds of recycled material,
- and minimized yarn usage without sacrificing quality by manufacturing products with densely constructed, low pile face weights. Collins & Aikman's average product face weight is 20% below industry average.

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Energy - reduced by 28 % per square yard.

Energy and consequently green house gas emissions (CO₂, SO₂, and NO_x) have been reduced by: increasing machine efficiency, increasing production rates, purchasing new equipment with energy saving features, and taking advantage of day lighting (190 sky lights) amongst other conservation measures. Third-party environmental audits were conducted and recommendations are being implemented

Collins & Aikman has also begun the implementation of an environmental management system, MSE 2000, developed by Georgia Institute of Technology's Energy and Environmental Management Center. MSE 2000 is similar to the ISO 14001 environmental management system.

Water - reduced by 50 % per square yard

The company has specifically reduced water usage by: utilizing closed loop systems to recycle process water, purchasing equipment with water saving features, in addition to decreasing its use of traditionally dyed yarns. Six years ago, approximately half of the yarn used by the company was solution dyed (pigmented during fiber extrusion rather than dyed by wet processing). Today, solution dyed yarn accounts for nearly 70 % of the yarn used by the company.

Air Emissions - reduced by 89 % per square yard

Air emission reductions have been achieved through selection of low VOC raw materials and by working with chemical supplier partners to reduce VOCs in their products. Suppliers have reformulated their products and even changed their manufacturing processes to reduce or eliminate certain VOCs. This reduction of VOCs has directly correlated to reductions in floor-covering product emissions and air emissions in the company's manufacturing processes.

Solid Waste reduced by 84 % per square yard

Waste has been reduced through source reduction and recycling. No hazardous waste is generated by any of our processes. In the early 90s, roughly 0.85 pounds (13.6 ounces) of waste per-square-yard was being landfilled. Today, waste has been reduced to less than 0.1 pounds (i.e. 1.5 ounces) per-square-yard. To-date Collins & Aikman has recycled over 35 million pounds (17,500 tons) of carpet and manufacturing waste.

Virtually all manufacturing waste has been eliminated through recycling. Not only does the company recycle post consumer carpet and manufacturing waste, it also recycles other items, such as: paper (all types), magazines, phone books, cardboard, pallets, carpet cores, yarn tubes, yarn waste, aluminum, batteries, waste oil, light bulbs, etc. These items would otherwise be landfilled, if not recycled.

Source Reduction

Source reduction is an ongoing program at Collins & Aikman to eliminate or reduce the quantity of raw materials used without sacrificing quality or performance. One example is minimization of yarn use through the manufacture of products with very densely constructed, low pile face weights. Collins & Aikman Floorcoverings has been instrumental in driving the carpet industry toward a reduction in nylon usage. **The company's average product face weight is 20 % less**

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than industry average. This saves the company enough yarn to produce an additional 3.6 million square yards of carpet annually. Lower product face weights have resulted in increased product performance, appearance retention and product longevity.

Buying Recycled

Collins & Aikman Floorcoverings believes that it is not enough to *just* recycle and that a company must *buy recycled* to truly close the loop. Collins & Aikman Floorcoverings is committed to the use of recycled materials in every aspect of its business -- from office supplies and packaging to the raw materials used in its floor coverings. The company's *Buy Recycled Purchasing Policy* gives purchasing preference to recyclable and recycled content products having the same quality and performance as virgin products at similar cost. The company's purchasing department is committed to the procurement of:

- recycled content products
- recycled raw materials for manufacturing
- recycled packaging material for shipments
- and recyclable or reusable products.

Collins & Aikman purchases the following recycled content materials for the production of its flooring products: post consumer polyethylene (stretch wrap and roll wrappings), automotive vinyl manufacturing waste, nylon 6,6 yarn, paper, office supplies and packaging.

Recycled Content Nylon 6,6 Yarn - Collins & Aikman's *Repeat* nylon 6,6 yarn system contains a minimum of 82 % recycled content. Styles such as Habitat, made with the *Repeat* yarn system and ER3 backing have greater than 45 % recycle content overall. Many colors of DuPont Antron® Lumena, solution dyed nylon 6,6 also contain from 6 to 10 % recycled content.

Economics

For the seventh year in a row, Collins & Aikman Floorcoverings achieved record growth in both sales and earnings. Products service five major markets: health care, education, retail, government and corporate.

- Over the last five years the company's worldwide sales force has doubled, with U.S. sales regions expanding from seven to ten.
- Products are available worldwide. Current international installations include North America, South America, Europe, the Middle East and Asia.

In 1998, the company acquired a manufacturer in the United Kingdom to serve as the base for European markets.

A joint venture was completed in Singapore to house sales and marketing operations to service Asia.

In 1999, Collins & Aikman Floorcoverings acquired California-based Monterey Carpets, and Canada's Crossley Carpet Mills, manufacturers of high end broadloom carpets.

Significantly, these economic milestones occurred during the same period the company was making enormous strides in environmental performance and human resource development. The company demonstrated that closed-loop recycling of carpet into carpet was profitable and achievable without sacrifice to product longevity and quality. Progress made in areas of material

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and resource conservation during the last five years resulted in savings of over \$10 million. The company's multiple acquisitions will strengthen their business both nationally and abroad. The company continues to practice its triple bottom line strategy that puts social equity, economics and environmental performance on an equal footing – an essential element in the company's journey toward sustainability.

Social Equity

Some quantitative indicators of social benefits include:

- Average employee tenure: 10 years
90 % of salaried positions are filled internally by rising employees
More than 130 associates have received a GED through "Working Minds," an on-site employee education program,
Thousands of dollars have been saved through innovative improvements suggested by employees via a company wide suggestion system
Millions of pounds of resources and millions of dollars have been saved through the "Cost for Improvement" program
- The company was rated as having one of the highest employee morale ratings, according to an independent survey conducted by Scarlett Associates
The company is involved in many community outreach programs. A few examples include: March of Dimes, the Alzheimer's Association, United Way, Business Education Partners, Keep Dalton/Whitfield Beautiful.

Collins & Aikman Floorcoverings strives for a sustainable model in management practices and employee involvement. Human resources are considered the company's most valuable resource and as such, Collins & Aikman is committed to promoting employees' personal growth. By encouraging people to reach for their goals, the company as a whole benefits. Managers trust their employees to perform to the height of their abilities and that trust is rewarded by employees' continued commitment to high work standards. The average tenure at Collins & Aikman is 10 years and a full 90 % of salaried positions are filled by internal candidates. Employee programs include the following:

Pace Setters - An experiential learning program and team-building initiative; part of every employee's orientation.

Education - Open to all associates; employees are encouraged to pursue further education through tuition reimbursement and on-site, education programs such as "Working Minds," a Graduate Equivalency Degree (GED) program. More than 125 associates have earned their GED through the program, an accomplishment recognized by congressman Nathan Deal in the federal register.

Suggestion System - The company's active employee suggestion system engages all associates and allows for ownership of suggestions implemented. Thousands of dollars have been saved through the system and many environmental recommendations have been attributed to employee suggestions.

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Employee Morale - Collins & Aikman was included in an independent survey designed to measure employee morale conducted by Scarlett Associates, a management research firm. The company was rated against the world's top-ranked companies and was recognized as having one of the highest employee morale ratings in the history of the survey.

Employee Assistance Program – Employees and their families can receive legal, financial and counseling services while on the clock.

Health Fair – All employees were able to participate in the company-wide health fair where free health exams, cholesterol screenings, hearing and vision checks amongst other services offered.

Collins & Aikman Floorcoverings In Dalton, GA Recognized by the State as a Leader in Preventing Pollution

ATLANTA - Collins & Aikman Floorcoverings in Dalton was recently recognized as a leader in pollution prevention, said G. Robert Kerr, Director of the Pollution Prevention Assistance Division (P²AD) of the Department of Natural Resources. For the second year in a row, the company achieved Model Level status in the Pollution Prevention Partners (P³) industry recognition program. Pollution Prevention Partners (P³) is a three level certification program that recognizes and rewards continuous pollution prevention performance and environmental improvement by Georgia Industries. Companies that qualify for the P³ program demonstrate to their customers, employees, and community a commitment to preventing pollution and waste, increasing efficiency and improving the environment.

“By reaching the model level in the P³ program, Collins & Aikman has demonstrated that they are an industry leader in preventing pollution at the source,” said Mr. Kerr. “Model level P³ facilities such as Collins & Aikman Floorcoverings have incorporated pollution prevention into daily business activities, promoted pollution prevention within the industry, with vendors and customers and within the community.”

A recipient of the Georgia Governor's Award for Pollution Prevention in 1998, Collins & Aikman has demonstrated leadership in providing recycled content commercial floor coverings to the marketplace. A patented technology developed by the company is used to close-the-loop recycle post consumer carpet and manufacturing waste into 100 % recycled content backing for new floorcoverings. Collins & Aikman's ER3 (Environmentally Redesigned, Restructured, and Reused) recycled content backing has become the standard in the company's modular product line. To further these efforts new products have been developed that utilize high recycled content nylon 6,6 face fiber.

Collins & Aikman's environmental initiatives go well beyond recycling. Specific core programs are dedicated to continual improvement and measurement in resource utilization management, air and water quality, energy utilization and waste minimization. The company will continue its pollution prevention efforts through the implementation of the MSE 2000, an environmental management system developed by the Georgia Institute of Technology's Energy and Environmental Management Center.

Pollution Prevention Partners (P³) program is open to all Georgia companies that are committed to a successful pollution prevention program and are deemed to be in environmental compliance. The program has three levels: Entry, Achievement and Model.

For more information about the P³ program, contact Rochelle Routman of P²AD at 404-651-5120 or 1-800-685-2443. For more information about Collins & Aikman Floorcoverings, call 1-800-248-2878 or visit their web site at www.powerbond.com.

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COLLINS&AIKMAN *community News* floorcoverings

December 1999

WALKS RAISED OVER \$10,000 in 1999.



Pictured are some of the 42 Collins&Aikman associates who participated in the 1999 WalkAmerica. See group picture on back

March of Dimes

The March of Dimes organization has been saving babies for six decades. Some examples of breakthroughs for the health of babies are the polio vaccines to prevent death or disabilities, the PKU Test to prevent mental retardation, surfactant therapy for respiratory distress syndrome and Neonatal Intensive Care Units to care for very sick babies.

The money collected in the walks goes toward programs for prenatal care, preconception health, and to support research grants.

This year on May 1, we had 42 walkers participate in WalkAmerica on the Collins & Aikman walk team. Our associates, friends and company supported the team with donations totaling \$5, 574.38.

Memory Walk

Alzheimer's disease is the fourth leading cause of death in adults; after heart disease, cancer, and stroke. The Alzheimer's Association is the only national voluntary health organization dedicated to research for the causes, treatments, cures, and prevention of Alzheimer's disease

and support for the families and caregivers.

The Memory Walk is the primary source of income for the national association. The majority of funds stay in the communities where they are raised and goes toward Family Support Groups; Helpline; Information, Education, and Training; Advocacy; Day Centers; In-home Respite Care; and Safe Return Program.

In October this year, our walk team consisted of about 50 walkers. Our associates, with company support, raised \$4,756 for the Alzheimer's cause. We also won a plaque for Most Improved Team for 1999. The event raised \$54,350 in our community.



Some 1999 Memory Walk participants. See group picture on back cover.

It is easy to join a Collins & Aikman WalkTeam. Announcements will be posted in breakroom areas or on the bulletin board. Sign up on the poster, get a collection envelope, collect money, turn in donations at given time, come to the walk, and have fun!!!!



Let's Keep Georgia Peachy Clean

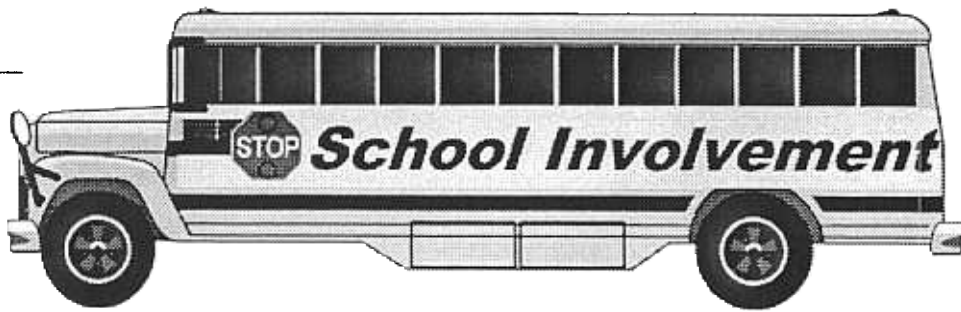
"ADOPT-A-MILE"

Collins & Aikman adopted a mile on the by-pass starting at the red light at the intersection of Cleveland Highway going east. The objective of the program is to create public awareness of the litter problem along Georgia's highways by making the adopted section of highway an example of community involvement that improves the beauty of the area through volunteer effort.

Once each quarter, on the selected Saturday morning, the group meets at the Commercial Flooring Plant at 8:00. Breakfast, gloves, orange safety vests and plastic bags are provided to each participant. The group is divided into four teams and a van drops each team at the four corners of the mile. It usually takes about 45 minutes to an hour to pick up the trash.

On the participant's first pick up they receive a T-shirt, on the 4th pick up a jacket and on the 8th pick up their choice of a golf shirt, jacket or gift certificate. A drawing for a gift certificate is a nice bonus for a lucky volunteer at each pick up. Also, at the annual Christmas party, a drawing for a gift certificate is held for all the volunteers that participated during the year. These incentives are just another way of making a worthwhile project more fun for everyone.

At the last "Adopt A Mile" trash pick-up there were 26 volunteers. Fifty bags of trash were picked up which totaled 1,250 pounds.



CrossRoads Academy/Gateway

CrossRoads Gateway are "last chance" alterand native schools. The difference between the schools is that disruptive students who can no longer attend public schools can choose to go to CrossRoads but students at Gateway are mandated by the courts to attend that facility. Crossroads' challenge is to intervene with "At Risk" students and supply the tools that will empower them to live a productive and contributing life. Last Christmas Collins & Aikman contributed watches to students and for some it was the only gift they received for the Christmas holidays.

Phoenix Center & CrossRoads

Roger Skelton in the Human Resources Department presented a seminar at the Phoenix Center and CrossRoads Schools on "How to Apply for Jobs" and what the community is looking for in applicants.

C & A Gives \$1,000 Scholarship to D.A.R.E.

The program emphasis of D.A.R.E is to help students recognize and resist the many subtle pressures that influence them to experiment with drugs, gangs and violence. The program focus is on students in grades 5 and 6 and continues through high school students. An important element of D.A.R.E. is the use of

BUSINESS EDUCATION PARTNERS

Collins&Aikman participates in the Business Education Partners Program with three area schools: TUNNEL HILL ELEMENTARY SCHOOL, VARNELL ELEMENTARY SCHOOL, AND NORTHWEST WHITFIELD HIGH SCHOOL.

At Tunnel Hill Elementary School Collins & Aikman carpeted the media center and contributed the old telephone books collected to their paper drive.

In October the four 3rd grade classes from Varnell Elementary School came to the Smith Industrial Plant to observe carpet being tufted. These 8 and 9 year olds were treated to donuts & juice in the conference room and were very enthusiastic



student leaders who do not use drugs as positive role models in influencing younger students not to use drugs and to avoid gangs and violence.

The Chattanooga D.A.R.E. program sponsors a contest in which



when asking questions. Danny Hix compared the tufting machines to big sewing machines with many needles. Hank Millsaps explained the process of making carpet, from yarn to the



backings. They watched carpet being tufted and then Ricky Roe did a demonstration on installation and maintenance of carpet, letting them hunt the spots he had cut and replaced. Everyone involved had a very positive experience.



high school students participate by writing essays about D.A.R.E. Collins & Aikman donated a \$1,000 scholarship this year and the winner selected the Tennessee Technological College.



ASSOCIATE SPOTLIGHT

Collins & Aikman would like to recognize the following associates for their service in the community.

Carol Sheram for her involvement in the Humane Society of Northwest Georgia. The only non-profit organization in Whitfield County concerned with the protection of all animals from cruelty and suffering. The Humane Society is a voluntary group of unpaid workers that receive no funding from government or private organizations. If you would like to help please call (706) 226-5002 for more information.

Tami Edwards for her involvement in CASA, Court Appointed Special Advocates. Who serve as the voice of abused children who are involved in court cases referred by Family and Children Services. Volunteers are trained to listen to the children and write up the case for the courts. All cases are confidential with background checks made on volunteers. If you are interested in volunteering contact Nancy Lester or Holly Dorr at Family and Children Services.

Max Cavalli received the "Volunteer of the Year" in 1998 from the YMCA. Max has also been involved with the Big Brother Organization the last four years and has a special Little Brother that he sees every week. This year Max was one of three nominees for the "Outstanding Big Brother Award"

Heather McLean was recognized by Channel 3 as a "Volunteer of the Week" for her participation in Chattanooga READ, a program which helps adult immigrants to speak English. Heather volunteered her time for two years and she taught basic English. Heather is fluent in Spanish.

BLOOD ASSURANCE

Give the "Gift of Life"

The need for blood and blood products will always be with us. Donating blood is safe, simple, and saves lives. The donation process takes less than 45 minutes. In just a few hours the blood is tested, typed and separated into various components. It is then distributed to hospitals to be transfused and may help as many as four patients. Blood is a life-saving product.

Blood Assurance, through volunteers like you, is your community agency that provides for those needs. Blood Assurance is a non-profit, full-service, regional blood center serving 21 health care facilities in 14 counties in Southeast Tennessee and Northwest Georgia. Their mission is to provide a safe and adequate supply of blood and blood components to everyone in need.

During the Collins & Aikman Health Fair held in March of this year 82 people gave blood. This month, 104 associates gave "The gift of life" during our Christmas campaign.



United Way &



The power of U

Making a difference in Northwest Georgia

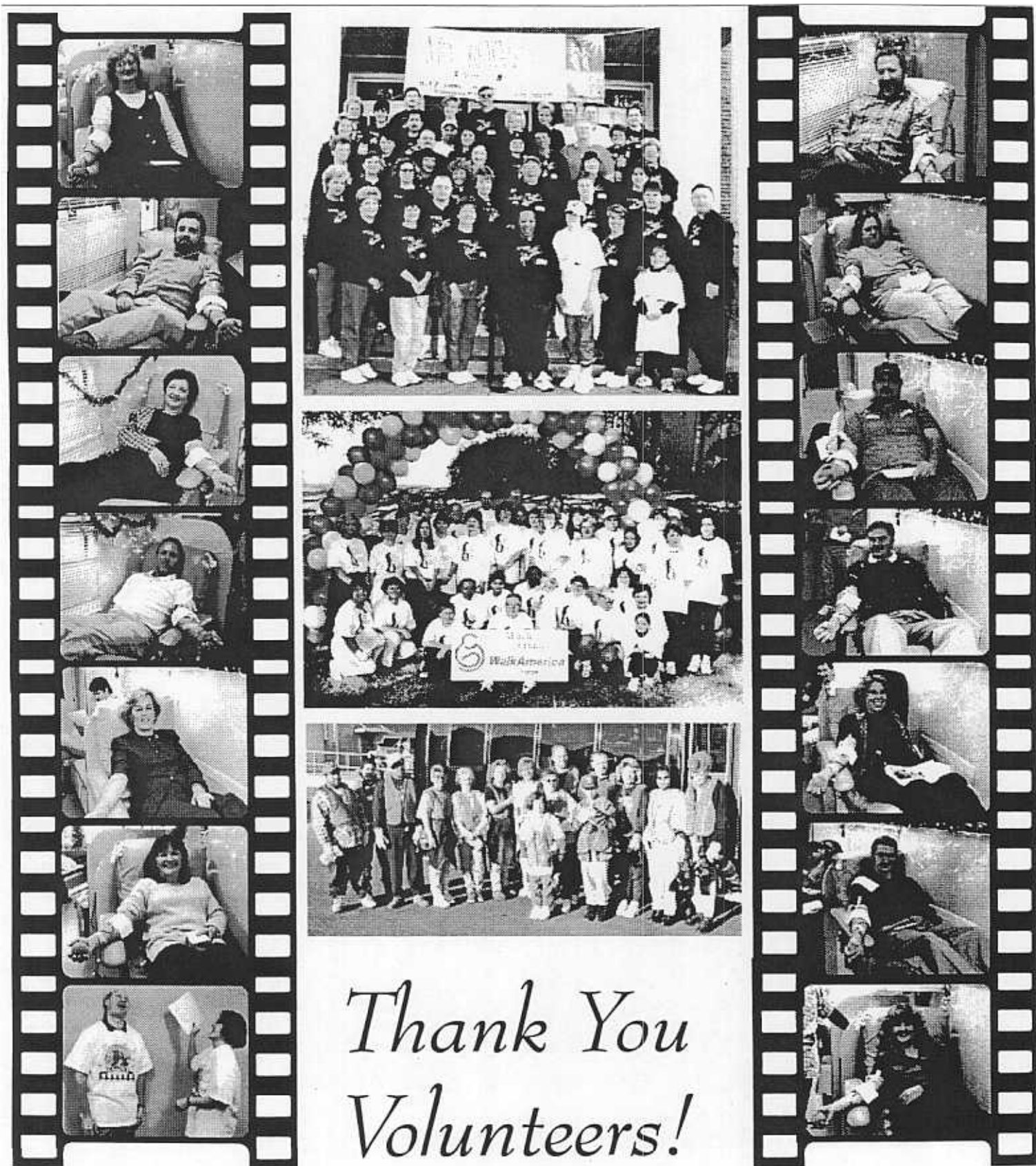
United Way helps support 29 agencies in our community. More than 70,000 people have been served through their programs. There are more than 1,000 volunteers in the local United Way. January through October our associates gave \$3,130.80 through payroll deduction in support of this worthy agency. If you or someone you know needs help or would like to volunteer, call the Voluntary Action Center at 226-4357 (Whitfield County) or 695-9001 (Murray County).

DONATIONS IN 1999

Collins & Aikman made donations to Northwest Drama Club, Chicago Aids Ride 4, Whitfield County Fire Department, Varnell Youth Athletics, Dalton Lions Club, Special Olympics of Georgia, March of Dimes, Alzheimer's Memory Walk, Tennessee Technological College, Court Appointed Special Advocates, National Fire Safety, and National Child Safety Council.

A Publication of the Human
Resources Department
Editor: Nancy Bryson
Layout: Paul Shellabarger

Just a few of our C&A Volunteers



Introduction

During the past 20 years, U.S. federal agencies have operated under a series of federal statutes and Presidential Executive Orders mandating the purchase of products and services that pose fewer burdens on the environment. As a result, federal agencies are increasingly selecting products based in part on environmental attributes such as recycled-content percentages, energy- and water-efficiency ratings, lower toxicity, and the use of renewable resources. Many state and local governments are embarking upon similar initiatives. The U.S. Environmental Protection Agency's (EPA's) Environmentally Preferable Purchasing (EPP) Program is assisting these efforts and documenting federal, state, and local government attempts to implement environmentally preferable purchasing strategies.

The growing interest in environmentally preferable purchasing, however, is not limited to the public sector. Private sector companies also are investigating and purchasing environmentally preferable products and services. Although environmental purchasing is a new concept for many companies, others are beginning to solve some of the challenges encountered when incorporating environmental considerations into purchasing decisions. Through a variety of environmental and cost-savings initiatives—design for the environment, greening the supply chain, full cost accounting, zero waste initiatives, ISO 14000 certification, environmental accounting, and others—private sector companies are identifying, manufacturing, and purchasing “green” products and services.

In an effort to provide federal purchasers and other interested parties with up-to-date information on current environmental purchasing practices, this report highlights some of the initial efforts of a few private sector companies to “buy green.” The EPP Program hopes the ideas generated and lessons learned from these private sector environmentally preferable purchasing pioneers will provide additional incentives, goals, and tools to further advance environmental purchasing efforts.

Through a variety of environmental and cost-savings initiatives, private sector companies are identifying, manufacturing, and purchasing “green” products and services.

For additional information on the EPP Program
or to access existing resources that can help you identify and purchase environmentally preferable products, please visit the program's
Web site at:

www.epa.gov/opptintr/epp

Private Sector Reasons for Adopting Environmental Purchasing Practices

Traditionally, private sector purchasing decisions are not made to promote social, economic, or political objectives. To prosper and earn a reasonable profit, private sector companies must sell quality goods at reasonable prices. As a result, before making a purchasing decision, companies typically only examine a product's cost, performance, availability, and any impact on future profits. An increasing number of private sector companies, however, are adopting purchasing policies to promote specific social, economic, or environmental objectives. A much larger number of companies, however, are adopting them when they also promote the company's financial objectives.

While many of the companies in this case study adopted environmentally preferable purchasing practices to help improve the environment, this section examines several of the "traditional" business reasons, including:

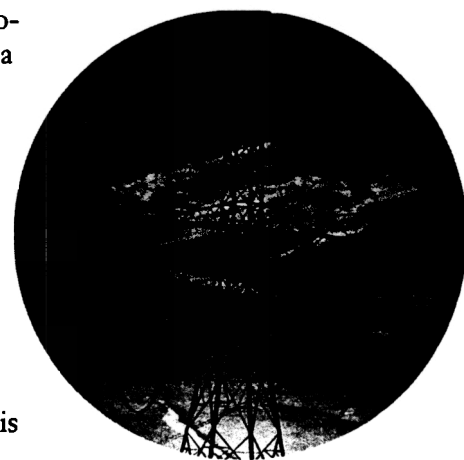
- Responding to customer interest in "environmentally friendly" products and practices.
- Distinguishing a company and its products from competitors.
- Pursuing cost savings.
- Joining an industry trend.

Responding to Customer Interest in "Environmentally Friendly" Products and Practices

Almost every company interviewed for this report referenced anecdotal evidence of increasing customer interest in the environmental performance of companies and their products. As a result, companies are taking steps to ensure their purchasing and manufacturing practices reflect the environmental sensitivities of their customers and that their products incorporate the environmental attributes customers are seeking.

Many companies reported receiving phone calls or surveys from existing and potential customers requesting specific environmental information about their products. **Collins & Aikman** and **Herman Miller** both regularly respond to calls or surveys concerning their products' recycled-content percentages, indoor air quality impacts, and other environmental attributes.

Several companies also mentioned recent consumer surveys that suggest customers are increasingly interested in purchasing "environmentally friendly" products or products from environmentally conscious companies. A 1995 Roper/International Research Associates press release cited by **Anheuser Busch**, **Collins & Aikman**, and **IBM**, reported that almost two in three people (64 percent) around the world believe "protecting the environment is the most important concern, even at the expense of economic growth." Companies also referenced similar studies indicating that



Companies are taking steps to ensure their purchasing and manufacturing practices reflect customers' environmental sensitivities.

Figure 3—Sales Brochure Providing Environmental Attribute Information

COLLINS & AIKMAN FLOORCOVERINGS

Environmentally Preferable Purchasing

Federal Acquisition Regulations require federal agencies to purchase products meeting the United States Environmental Protection Agency's guidelines for Environmentally Preferable Products when those products are available.

ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTALLY PREFERABLE PURCHASING GUIDELINES EPA 744-F-94-002

Pollution Prevention. Consideration of environmental preferability should begin early in the process and be rooted in the ethic of pollution prevention that strives to eliminate or reduce, up front, potential risks to human health and the environment.

Life-cycle Perspective. Environmental preferability should reflect life-cycle consideration of products and services to the extent feasible.

Magnitude of Impact. Environmental preferability should consider the scale (global versus local) and temporal aspects (reversibility) of the impacts.

Local Conditions. Environmental preferability should be tailored to local conditions where appropriate.

Competition. Environmental attributes of products or services should be an important factor or "subfactor" in competition among vendors, where appropriate.

Product Attribute Claims. Agencies need to examine product attribute claims.

Multiple Attributes. A product or service's environmental preferability is a function of multiple environmental attributes. (See details below.)

- **ENERGY REDUCTION:**
- **SOURCE REDUCTION:**
- **INDOOR AIR QUALITY:**
- **WASTE REDUCTION:**
- **RECYCLING PROGRAM:**
- **RECYCLED CONTENT:**

HOW COLLINS & AIKMAN MEETS THE ENVIRONMENTALLY PREFERABLE PURCHASING GUIDELINES

- Collins & Aikman Floorcoverings, Inc. received the Georgia Land Quality Environmental Citizen of the Year Award for reduction in landfill waste.
- Collins & Aikman Floorcoverings received the Georgia Governor's Award in September 1998 for Pollution Prevention.

- Collins & Aikman recycled-content products provide "best value." They have extremely long life expectancy and are warrantied for a full 15 years, non-prorated against edge ravel, delamination, zipping, loss of resiliency and excessive surface wear. The environmental life-cycle is like no other. All products, both regular and recycled-content, are true closed-loop recyclable over and over again and never need to go to a landfill.*

- Four billion pounds of carpet is dumped in landfills annually. Our recycling process eliminates the need for any carpet we have ever made to be landfilled or incinerated. We have the only true closed-loop recycling process, taking back old carpet and recycling it into new carpet.

- Collins & Aikman will take back and recycle Powerbond ER3™ or our competitors' vinyl-backed floorcovering. This reduces the amount of raw materials needed to produce carpet and reduces the amount of carpet going into local landfills in virtually every community nationally.

- Openly competitive and readily available, Collins & Aikman products are available through multiple local dealers across the country. Additionally, the products are available on numerous competitive state and local contracts and on GSA schedule.

- Written warranties and affidavits signed by officers of Collins & Aikman are available. Collins & Aikman welcomes purchasers to tour the recycling facilities and view the world's only true closed-loop carpet recycling process.

In addition to the above:

- Collins & Aikman Powerbond ER3™ products have these multiple environmentally sustainable attributes: energy, source and waste reduction; indoor air quality; recycling program and recycled content—including 100% recycled and infinitely recyclable. (See details below.)

Collins & Aikman has achieved a dramatic reduction in energy consumption using 37% less energy per square yard to manufacture its products as compared to five years ago.

Collins & Aikman's extremely dense yarn construction achieves unequalled product performance while reducing the amount of yarn use by more than 20% compared to the industry average.

RS technology eliminates the use of wet adhesives in installation. By taking further steps to ensure low emissions, Powerbond RS products meet the most comprehensive of Indoor Air Quality standards—The State of Washington Protocol. Powerbond RS products, including adhesive materials, have emission rates more than 20-times lower than those required to pass CRJ's much less stringent Adhesive and Carpet IAQ Testing Programs combined.

In 1998, Collins & Aikman Floorcoverings permanently diverted more than 8,000,000 lbs. of material from landfills by reclaiming internal processing waste. Collins & Aikman recycles all of the material which is diverted so that it never has to go into a landfill.

Collins & Aikman Floorcoverings has a fully operational, commercial program to bring back its own and similar competitive carpet products to be recycled back into carpet and other value-added products. 100% of the material brought back is recycled.

The overall recycled-content ranges from 28% to 52%. Recycled-content products have the same performance warranties and identical pricing as the non-recycled products. Collins & Aikman has the only high-performance carpet available on GSA contract under GSA's recycled-content classification (31-16a).

*US Patent #5,728,741
US Patent #5,855,981

- After adopting an aggressive energy-efficiency initiative in 1996, **Anheuser-Busch** expects to keep its utility purchases in 2000 at or below its 1995 utility costs. The company anticipates annual savings of \$60 million by 2000. Most of these savings will result from large capital investments to decrease utility consumption and cost. At present, the company is on schedule to meet its goal.
- **Collins & Aikman** reduced the amount of yarn in some of its carpet lines by more than 10 percent without adversely affecting performance. In addition to lower material costs, this change also allows Collins & Aikman to manufacture the same amount of carpet with significantly less energy.
- Several companies, including **Anheuser-Busch**, **The Body Shop**, **Herman Miller**, **IBM**, and **McDonald's**, are purchasing lighter weight or reduced packaging to contain their products, which significantly reduces product packaging volume, saves money, and reduces impacts on solid waste disposal systems.

Joining an Industry Trend

Several companies suggested that supplying environmentally preferable products will be an important industry objective in the next century. Supplying "environmentally friendly" products requires companies to purchase and use environmentally preferable components in manufactured products and to identify vendors to stock environmentally preferable products. In an attempt to identify such products, more than 1,800 Japanese companies and other organizations have joined the Japanese government's Green Purchasing Network (GPN) to learn more about environmentally preferable purchasing and to share product information. GPN has sold more than 10,000 copies of its Environmental Data Books, which compare the environmental attributes of products. (Please visit <www.wnn.or.jp/wnn-eco/gpne> for additional information on GPN.)

Similarly, more than 368,000 people refer to information published by Green Seal, a nonprofit organization providing environmental product recommendations in 33 product categories. Green Seal developed a 110-page buying guide to share its environmental product and services research. It also helps its more than 450 Green Seal member companies evaluate their current purchases and implement green buying programs. The organization publishes a monthly *Choose Green Report*, which lists products Green Seal has identified as environmentally preferable. (Please visit Green Seal's Web site <www.greenseal.org> for additional information.)

Supplying environmentally preferable products will be an important industry objective in the next century.

Volvo has a similar program to track chemical usage. It employs a database identifying the environmental impacts of more than 5,000 chemical products. From this list, Volvo has developed two lists—a black and a grey list. The black list includes chemicals that the company has banned from use in its products. The grey list includes a similar list of chemicals for which Volvo is attempting to locate more environmentally benign substitutes. Volvo shares this list with all of its suppliers to ensure none of the components it purchases contain any of the banned substances. (For a copy of Volvo’s black and grey lists, please see Figure 4 on pages 18 and 19.)

- As part of its *Green Procurement Standards*, **Canon** includes two lists containing more than 300 chemicals. The lists include 270 chemicals used in company facilities as part of routine plant operations (e.g., research and development, production, cleaning, and maintenance) and 49 chemical substances remaining in its products. Chemicals on the lists are prohibited or are being reduced by the company.
- **Sony** uses a classification system to prohibit the use of certain chemicals. It classifies production process chemicals into four groups based on the degree of hazard posed to human health and the environment. It prohibits the use of Class 1 chemicals, which the company classifies as the most hazardous. Sony plans to eliminate the use of all Class 2 chemicals and reduce its use of Class 3 chemicals 50 percent by March 2001. Class 4 chemicals will continue to be supervised and controlled carefully.
- In an attempt to increase the environmental preferability of its products, **Collins & Aikman** prohibits the purchase of raw materials containing known hazardous or high levels of volatile organic compounds (VOCs). As a result, product VOC emission tests result in no detectable formaldehyde, styrene, 4-PC, or known human carcinogens at product installation, and VOC emissions, including the products’ preapplied adhesives, are minimal.
- Other manufacturers focus efforts on avoiding or reducing smaller sets of specific chemicals. **The Body Shop**, for example, avoids the use of polyvinyl chloride (PVC), a common plastic resin, out of concern for the dioxins produced as part of the manufacturing process and for the potential adverse health effects from chemicals routinely added to the plastic to improve performance.
- As part of **Ben & Jerry’s** efforts to avoid products linked with dioxin releases, the company avoids chlorine-bleached paper products whenever possible. As mentioned previously, Ben & Jerry’s also avoids the purchase of milk from dairy farmers who treat their cows with rBGH. The company is concerned because rBGH has been linked to decreases in the nutritional value of the milk, reduced shelf life, and adverse effects to the health of the cows. Additionally, Ben & Jerry’s purchases organic cotton t-shirts for use by “scoop shop” employees and for retail sale because it believes organic cotton farming techniques, which eliminate the use of chemical pesticides, are environmentally preferable to other cotton farming methods.

Figure 5—Examples of McDonald's Recycled-Content Product Purchases

Representative Recycled-Content Items	Total Percent Recycled Content	Average Percent Postconsumer Content
4-Hole Drink Carrier	100	51
Big Mac™ Container	36	31
Carry-Out Bag	100	50
Corrugated Paperboard	40	25
Deluxe Line Sandwich Containers	36	31
Happy Meal™ Bags	65	65
Happy Meal™ Cartons	100	60
In-Store Trays	50	15
Jumbo Fries Container	36	31
Jumbo Roll Tissue	100	40
Napkins	100	30
Roll Towels	100	30
Sandwich Wraps	20	0
Small Generic Carton	50	30
Toilet Tissue	100	30
Tray Liners	100	75

(Source: McDonald's Waste Reduction Action Plan, May 12, 1998)

When McDonald's initiated its "buy-recycled" program, the company was unsure how to locate recycled-content products. It placed ads in trade journals and in the national press expressing its desire to purchase recycled-content products. As manufacturers identified themselves and their products, McDonald's entered them into a database. The database includes more than 700 companies, and McDonald's has shared it with more than 250 other organizations seeking to increase their purchases of recycled-content products. The database, however, is no longer maintained for external use.

- While very few companies have programs as large as **McDonald's**, numerous companies are increasing their purchases of recycled-content office supplies as the prices for recycled-content products become more competitive with their virgin material counterparts. **Collins & Aikman**, for example, has a preferential purchasing program for recycled-content office supplies when price and performance are equal to competing products. The company estimates its current recycled-content purchases include approximately 20 percent of its general office products and 75 percent of its paper supplies.

- **DaimlerChrysler** requires its suppliers to disclose their material content in self-disclosure certifications. These statements and the data are reviewed by the company. After comparing analyses, each vendor is assigned an environmental rating. The environmental rating is part of the total rating of the supplier. In this way, environmental issues are part of the total evaluation of the supplier and become part of the normal business decision-making process. As a general rule, the higher the rating, the more likely it is the supplier will continue to receive significant business.

Suppliers are partners in the production process.

Companies also are redefining their relationships with their vendors. Many companies do not perceive their vendors solely as product suppliers but as partners in the production process. As a result, companies and their vendors are working together to save money and improve environmental performance.

- In an attempt to further promote environmentally conscious manufacturing and purchasing practices, **Herman Miller** holds semiannual conferences for its employees and invites all of its suppliers. The conferences include nationally recognized experts in waste minimization, pollution prevention, lifecycle analysis, environmental design, and packaging.
- **PSE&G** and **Perrigo** both developed similar relationships with their chemical suppliers. The supplier for each company tracks the companies' on-site chemical inventories to maintain proper inventory levels. If an employee mistakenly orders a product that is already on site, the vendor will alert the employee rather than delivering additional product.

Perrigo took an additional step by establishing financial incentives for its suppliers to reduce the quantities of chemicals purchased. The company shares the cost savings resulting from decreased chemical purchases with the chemical suppliers. As a result, it is in the suppliers' financial interest to minimize sales. This, in turn, saves additional money for the company because it no longer pays to acquire unneeded chemicals and it significantly reduces the costs to dispose of outdated overstock.

- When **Collins & Aikman** was trying to reduce the volume of VOCs in its carpet products, it worked closely with several suppliers. In an attempt to meet the more stringent environmental requirements, a few suppliers completely reformulated existing products or modified manufacturing processes. Working closely with its suppliers provided Collins & Aikman with opportunities to improve its products' environmental attributes and the environmental performance of the company and its suppliers in ways that it might not have achieved otherwise.

To increase its recycling rate and decrease its waste volume, **Anheuser-Busch** worked closely with its suppliers to establish a standard for the plastic strapping used to bind shipments of incoming materials. Prior to this effort, the company was unable to recycle the strapping material in any significant volume because of the wide variety of colors and plastic resins each supplier used. Recognizing that it was buying not only the product, but also the strapping, Anheuser-Busch worked with its suppliers to establish two, color-coded, single-resin plastics for use in strapping materials. The color-codings indicate resin type so that the resins can be easily separated for recycling. As a result of its effort and the cooperation of its suppliers, Anheuser-Busch is currently recycling more than 700 tons of plastic strapping a year. This program and

Conclusions

This report describes a wide variety of approaches private sector companies are using to implement environmentally preferable purchasing. The practices of companies described provide insights and lessons that might be valuable for others interested in environmental purchasing. The following conclusions can be made based on the information in this report:

Private Sector Companies Are Increasingly Adopting Environmentally Preferable Purchasing Practices

This report includes numerous examples of companies voluntarily incorporating environmentally preferable purchasing principles into their purchasing policies because it makes good business sense. More than 368,000 consumers refer to Green Seal's *Choose Green Reports* and more than 1,800 Japanese organizations have joined GPN. Other business groups, including Business for Social Responsibility (<www.bsr.org>) and the Alliance of Motion Picture and Television Producers, are developing materials promoting environmental purchasing to their members. These numbers and trends illustrate increasing interest in environmentally preferable purchasing initiatives.

Environmental Purchasing Has Economic and Environmental Benefits

Applying environmentally preferable purchasing principles has saved companies money. Examining environmental impacts throughout a product's entire life cycle can help companies identify opportunities to reduce costs. It also can provide companies with cost-neutral opportunities to improve environmental performance.

Additionally, companies employing environmentally preferable purchasing principles are significantly reducing their energy- and water-consumption, decreasing their use of limited natural resources, reducing waste, and minimizing the use of potentially hazardous substances. All of these actions benefit the environment and also might benefit a company's bottom line.

Companies Are Actively Promoting Environmental Purchasing

Companies are increasingly promoting the environmentally preferable attributes of their products. They also are encouraging customers to consider environmental attributes when making purchasing decisions. **McDonald's** encourages consumers to "buy recycled" by providing information on tray liners and other paper products used in its stores. **Volvo**, **Collins & Aikman**, and **Patagonia** all routinely provide environmental information on the products they sell in their sales literature.

